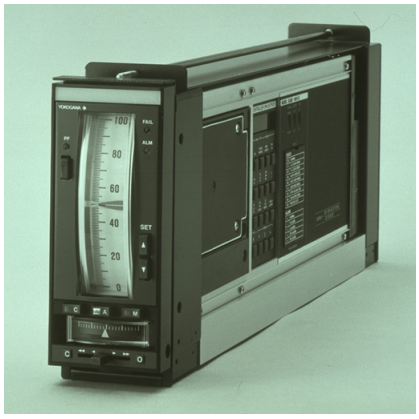
Technical Information

TI 01B08A02-08EN

YS1000
Replacement Guide
SLPC → YS1700 User Program Conversion

YS1000 Series



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Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan

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Introduction

This manual describes how to read user programs and parameters from an SLPC and convert them for the YS1700.
Be sure to check data and operations after conversion.

●Documentation for replacement

Name	No.	Description
YS1000 Series Replacement Guide Overview, Model Conversion	TI 01B08A02-05EN	Please read me first. This manual describes the overview, model conversion.
YS1000 Series Replacement Guide Installation and Wiring	TI 01B08A02-06EN	This manual describes the compatibility of installation and wiring with YS100, YS80, EBS, I, EK, HOMAC, and 100 line.
YS1000 Replacement Guide YS170 → YS1700 User Program Conversion	TI 01B08A02-07EN	This manual describes how to read user programs and parameters from the YS100 and convert then to YS1000 data.
YS1000 Replacement Guide SLPC → YS1700 User Program Conversion	TI 01B08A02-08EN	This manual describes how to read user programs and parameters from the SLPC and convert then to YS1000 data.

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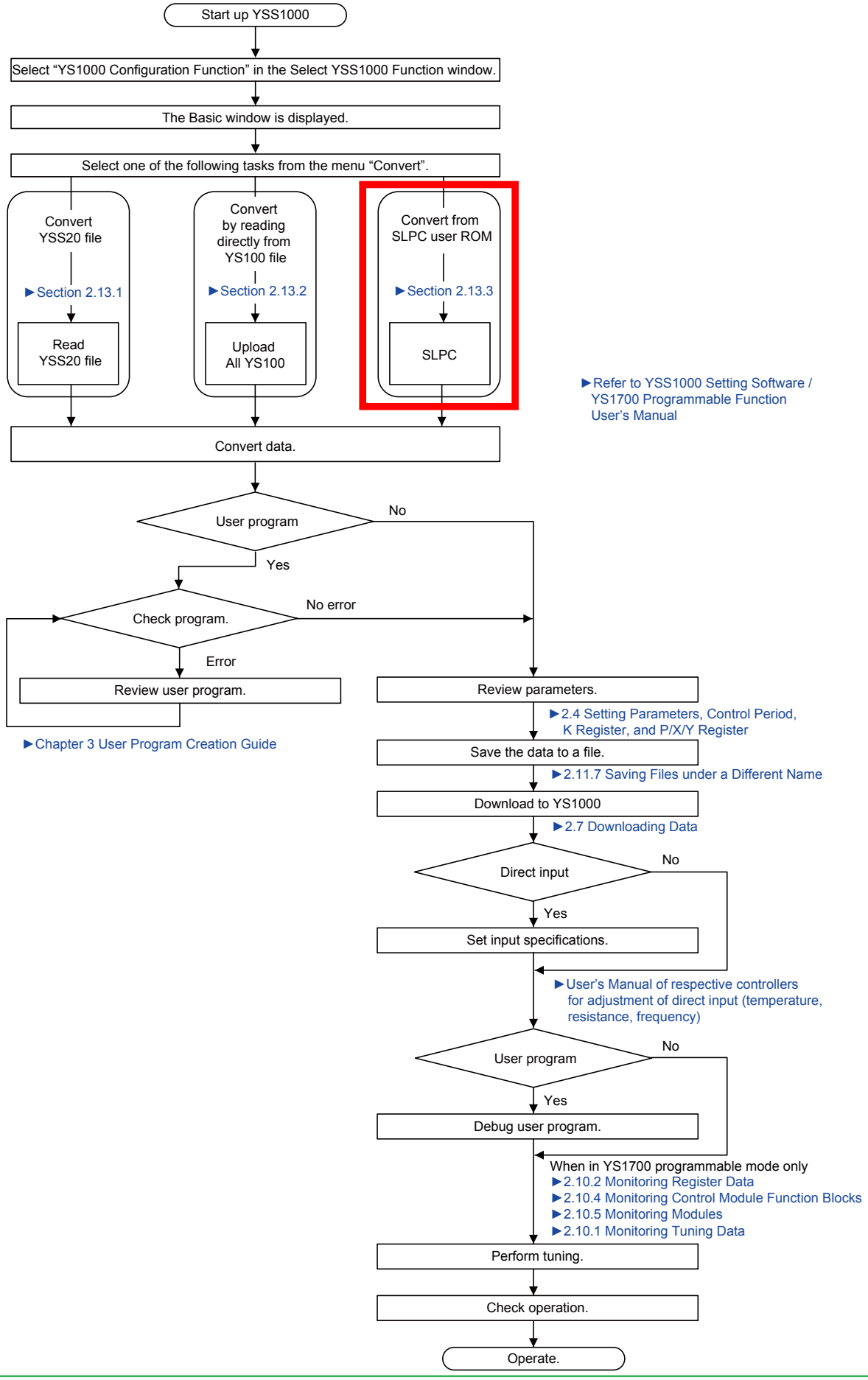
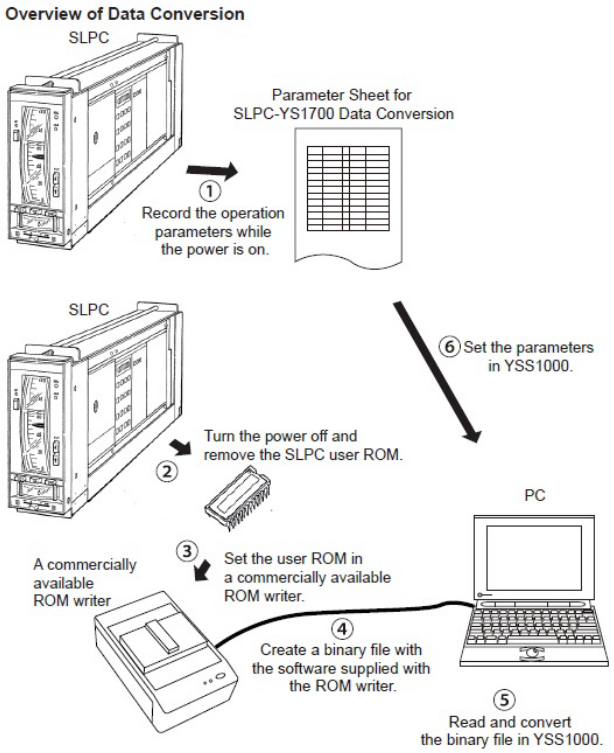
1. Old model conversion flow chart



2. Overview of SLPC conversion


Overview of Data Conversion
SLPC
Parameter Sheet for
SLPC-YS1700 Data Conversion
① Record the operation parameters while the power is on.
SLPC
⑥ Set the parameters in YSS1000.
Turn the power off and remove the SLPC user ROM.
②
PC
③ Set the user ROM in a commercially available ROM writer.
A commercially available ROM writer
④ Create a binary file with the software supplied with the ROM writer.
⑤ Read and convert the binary file in YSS1000.

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3. SLPC conversion procedure

- 3.1 Entering SLPC parameters on the parameter sheet
- 3.2 Reading ROM data
- 3.3 Starting the YSS1000
- 3.4 Converting ROM data and checking converted results
- 3.5 Checking and entering system data
- 3.6 Saving files
- 3.7 Comparing programs
- 3.8 Checking programs
- 3.9 Checking and entering parameters
- 3.10 Downloading to the YS1000
- 3.11 Checking operation (debugging programs)

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3.1 Entering SLPC parameters on the parameter sheet

- After writing down SLPC parameters on the parameter sheet, enter them accordingly.

Use the SLPC-YS1700 parameter sheet found in section 11.4, "SLPC-YS1700 Data Conversion Parameter Sheet" of the YSS1000 Setting Software/YS1700 Programmable Function user's manual (IM 01B08K02-02EN).

IM 01B08K01-02E

SLPC-YS1700 Parameter Sheet (5/8)

SLPC							YS1700							
Keyboard	Parameter	Range	Unit	Default	Setting value	Menu	Title	Parameter	Range	Unit	Default	Setting value	Remarks
PN	PX1	0.000 to 1.000	-	0.000	0.000	TUNING MENU	PID1	SFA1	0.000 to 1.000	-	0.000	0.000	*9, *10
	PY1		-	0.000	0.000			SFB1		-	0.000	0.000	
	PZ1	0.000 to 1.000	-	0.000	0.000			-					*11
	PX2		-	0.000	0.000		PID2	SFA2	0.000 to 1.000	-	0.000	0.000	*9, *11
	PY2		-	0.000	0.000			SFB2		-	0.000	0.000	
	PZ2	0.000 to 1.000	-	0.000	0.000			-					*11
PHPL	PH1	*1	EU	106.3	190.1		PID1	PH1	*5	EU	106.3	190.1	*12, *14
	PL1		EU	-6.3	20.1			PL1		EU	-6.3	20.1	*12, *15
	PH2	*2	EU	106.3	106.3		PID2	PH2	*6	EU	106.3	106.3	*13, *14
	PL2		EU	-6.3	-6.3			PL2		EU	-6.3	-6.3	*13, *15
DLVLVT	DL1	*3	EU	100.0	200.0		PID1	DL1	*7	EU	0.0	200.0	*12, *16
	VL1		EU	100.0	200.0			VL1		EU	0.0	200.0	
	VT1	1 to 9999	s	1	1			VT1	1 to 9999	s	1	1	
	DL2	*4	EU	100.0	100.0		PID2	DL2	*8	EU	0.0	100.0	*13, *16
	VL2		EU	100.0	100.0			VL2		EU	0.0	100.0	
	VT2	1 to 9999	s	1	1			VT2	1 to 9999	s	1	1	

EU: Engineering Unit
*1: Engineering unit of -6.3 to 106.3% set with HI1, LO1, and DP1.
*2: Engineering unit of -6.3 to 106.3% set with HI2, LO2, and DP2.
*3: Engineering unit of 0.0 to 100.0% set with HI1, LO1, and DP1.
*4: Engineering unit of 0.0 to 100.0% set with HI2, LO2, and DP2.
*5: Engineering unit of -6.3 to 106.3% set with SCH1, SCLO1, and SCDP1.

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3.1.1 List of parameters requiring special handling

- The following is a list of parameters that require conversion or other special consideration.

SLPC Parameter	YS1700 Parameter	Before Conversion	Aftger Conversion	Remarks
F01～F11	FX101～FX111	0.0～100.0	0.000～1.000	Divide the setting value of SLPC by 100 and calculate to three digits after the decimal point.
G01～G11	FX201～FX211	0.0～100.0	0.000～1.000	Divide the setting value of SLPC by 100 and calculate to three digits after the decimal point.
H01～H11	GXI101～GXI111	-25.0～125.0	-0.250～1.250	Divide the setting value of SLPC by 100 and calculate to three digits after the decimal point.
I01～I11	GXO101～GXO111	-25.0～125.0	-0.250～1.250	Divide the setting value of SLPC by 100 and calculate to three digits after the decimal point.
L01～L11	GXI201～GXI211	-25.0～125.0	-0.250～1.250	Divide the setting value of SLPC by 100 and calculate to three digits after the decimal point.
M01～M11	GXO201～GXO211	-25.0～125.0	-0.250～1.250	Divide the setting value of SLPC by 100 and calculate to three digits after the decimal point.
P30～P39	PGO101～PGO110	-25.0～125.0	-0.250～1.250	Divide the setting value of SLPC by 100 and calculate to three digits after the decimal point.
STC	STC	OFF/0/1/2	OFF/DISP/ON/ATSTUP	OFF:OFF/0:DISP/1:ON/2:ATSTUP
IP1,IP2	IP1,IP2	0/1	STATIC/DYNAM	0:STATIC/1:DYNAM
OS1,OS2	OS1,OS2	0/1/2/3	ZERO/MIN/MED/MAX	0:ZERO/1:MIN/2:MED/3:MAX
DP1,DP2	SCDP1,SCDP2	1～4	#.####～#####	1:##.###/2:###.##/3####.#/4:#####
MODE1	START	0/1	M-COLD/AUT	0:M-COLD/1:AUT
MODE2	CMOD1	0/1/2	-/CAS/CMP	0:-/1:CAS/2:CMP
MODE4	BMOD1	0/1	BUM/BUA	0:BUM/1:BUA

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3.2 Reading ROM data

- ROM reader
  - Use universal program MODEL1882 and MODEL1883 binary format.
  - Device selection: 28 Pin: MBM27C64, 24 Pin: MBM2716
    - » Minato Electronics Corp.
    - » URL : http://www.minato.co.jp/en/index.html

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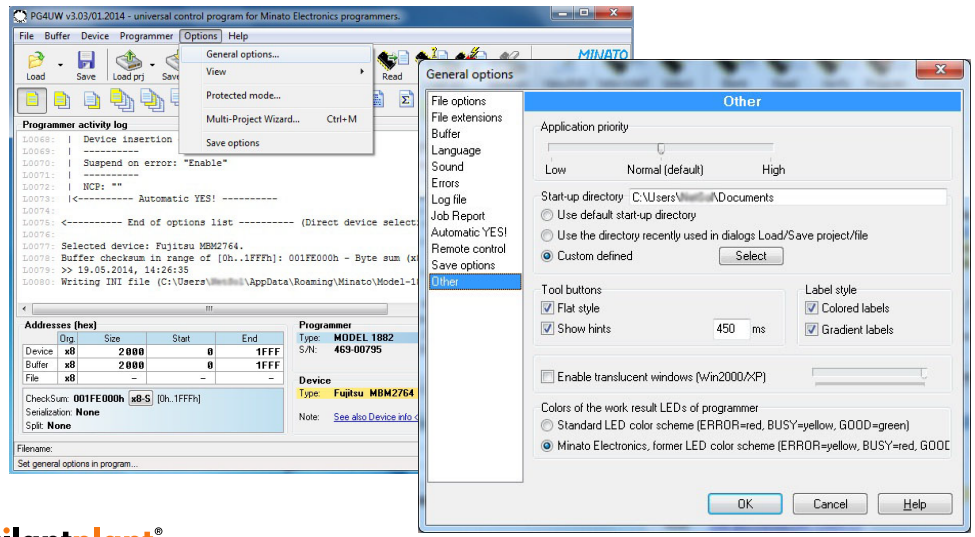
3.2.1 Before reading ROM data

- Specify the startup directory.
  - Specify a folder other than the default value of C:/Program Files.
    - » How to specify a folder:
      Menu > Options > Option settings
    - » Ex.: Subfolders of each USER folder



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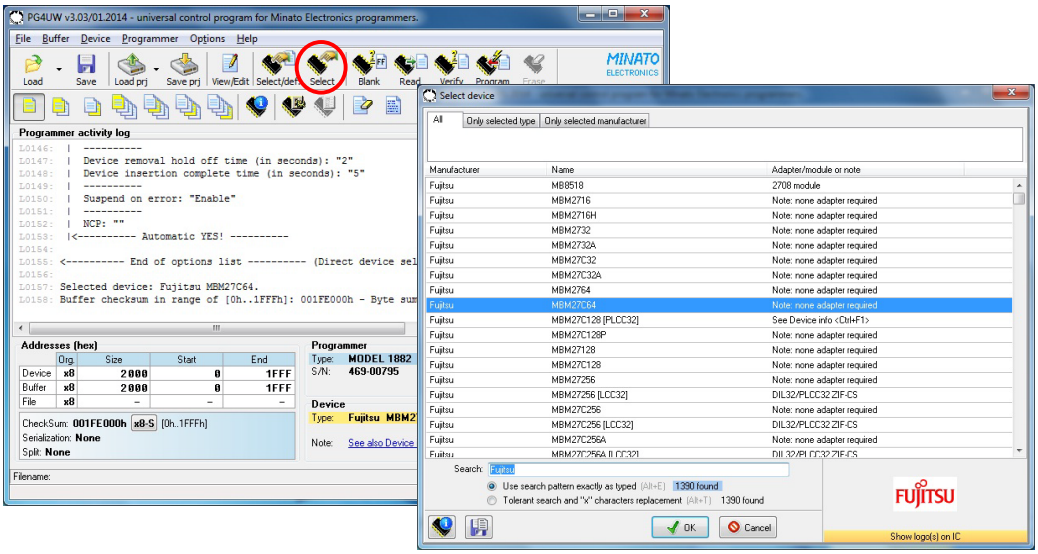
3.2.2 Selecting a ROM device

- Selecting a device
  - Click Select
    - » Manufacturer: Fujitsu
    - » Device selection: 28 Pin: MBM27C64, 24 Pin: MBM2716



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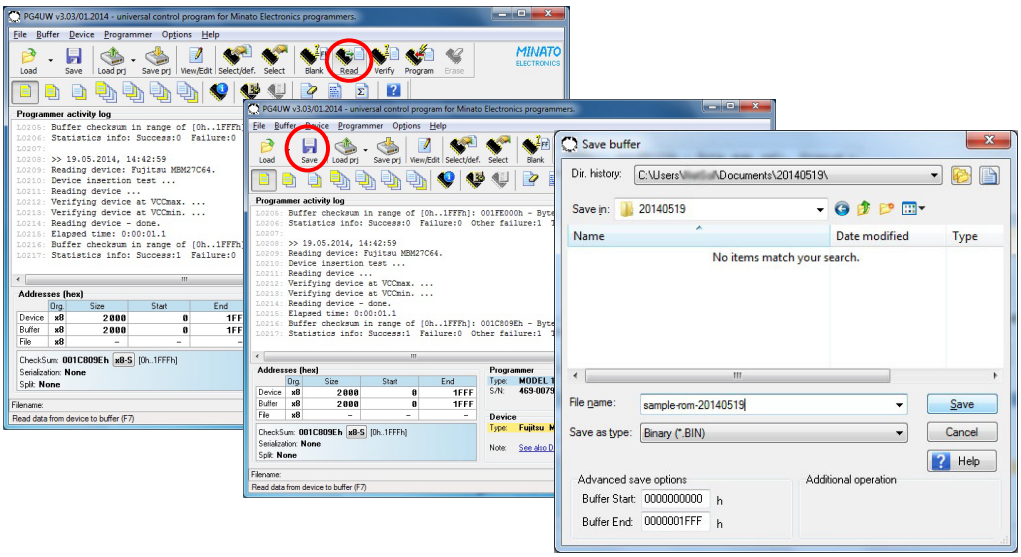
3.2.3 Reading and saving ROM data

- Reading and saving ROM data
  - Reading ROM data: Press the Read button
  - Saving ROM data: Press the Save button
    - » Save in binary format.



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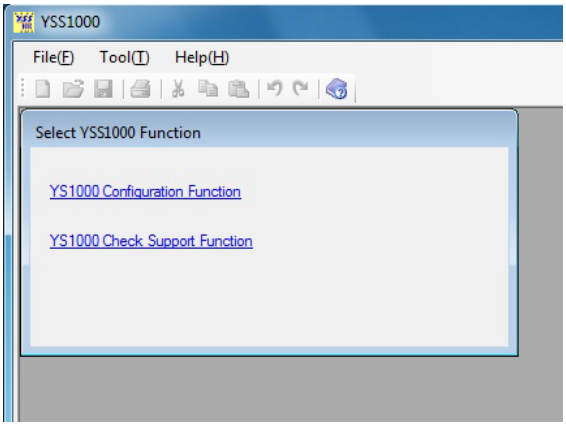
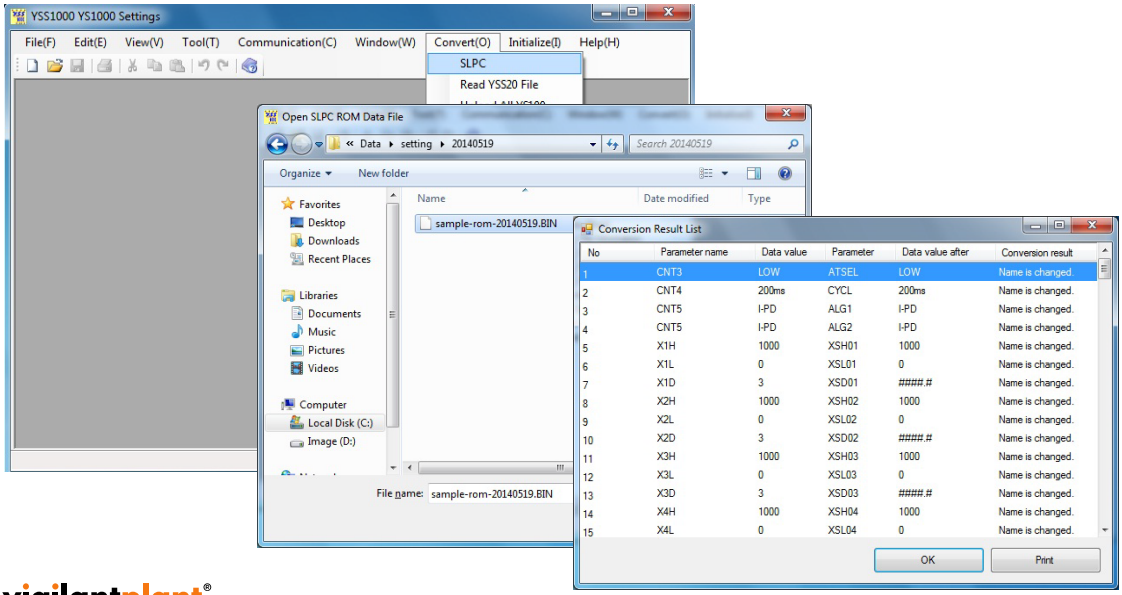
3.3 Starting the YSS1000

- Start the YSS1000
- Click the YS1000 setting function link



3.4 Converting ROM data and checking the list of results

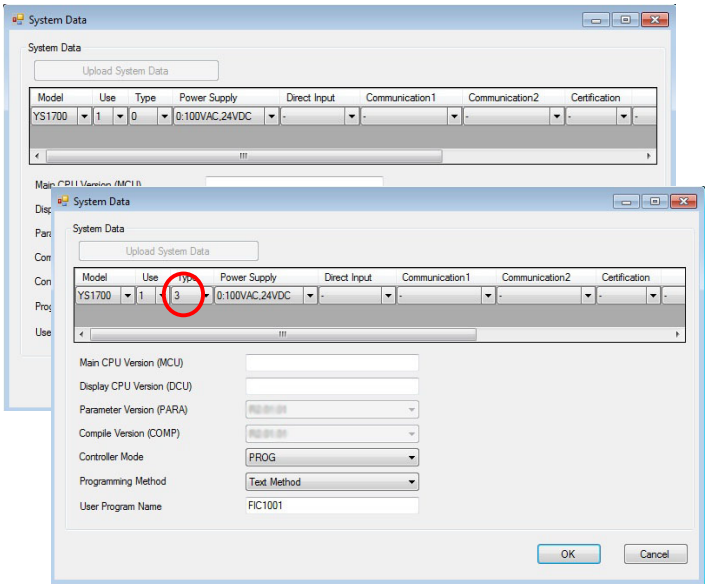
- Converting ROM data
  - (1) Menu > Convert old model > SLPC
  - (2) Correct any errors that are found. Otherwise, OK.
  - (3) Parameters expanded from the SLPC become the defaults on the YS1700.


YSS1000 YS1000 Settings
File(F) Edit(E) View(V) Tool(T) Communication(C) Window(W) Convert(O) Initialize(I) Help(H)
SLPC
Read YSS20 File
Open SLPC ROM Data File
Data setting 20140519
Search 20140519
Organize New folder
Favorites Desktop Downloads Recent Places
Libraries Documents Music Pictures Videos
Computer Local Disk (C:) Image (D:)
Name Date modified Type
sample-rom-20140519.BIN
File name: sample-rom-20140519.BIN
Conversion Result List
No Parameter name Data value Parameter Data value after Conversion result
1 CNT3 LOW ATSEL LOW Name is changed.
2 CNT4 200ms CYCL 200ms Name is changed.
3 CNT5 I-PD ALG1 I-PD Name is changed.
4 CNT5 I-PD ALG2 I-PD Name is changed.
5 X1H 1000 XSH01 1000 Name is changed.
6 X1L 0 XSL01 0 Name is changed.
7 X1D 3 XSD01 ####.# Name is changed.
8 X2H 1000 XSH02 1000 Name is changed.
9 X2L 0 XSL02 0 Name is changed.
10 X2D 3 XSD02 ####.# Name is changed.
11 X3H 1000 XSH03 1000 Name is changed.
12 X3L 0 XSL03 0 Name is changed.
13 X3D 3 XSD03 ####.# Name is changed.
14 X4H 1000 XSH04 1000 Name is changed.
15 X4L 0 XSL04 0 Name is changed.
OK
Print

3.5 Checking and entering system data

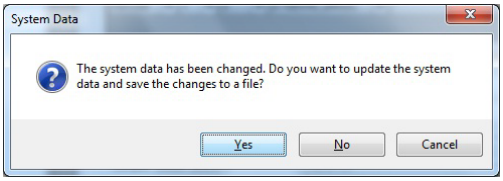
- Since it will become the YS1700-100 after conversion, you must enter system data referencing the name plate.

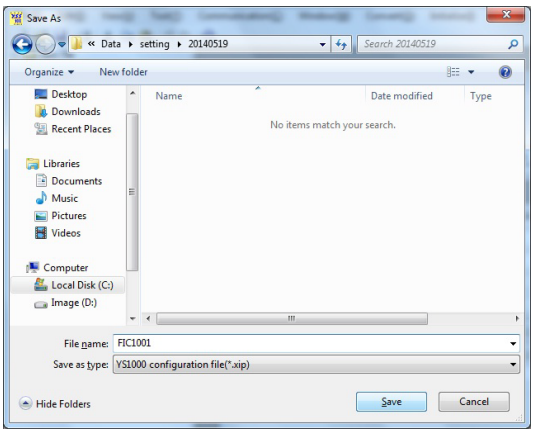
  (1) Enter system data referencing the YS1700 name plate



3.6 Saving files

- When converting system data, follow the prompts to save files.


System Data
The system data has been changed. Do you want to update the system data and save the changes to a file?
Yes
No
Cancel



3.7 Comparing programs

- Compare with the SLPC program list

```
  SLPC    USER    PROGRAM
================================
STEP  PROGRAM          COMMENT

   1  LD  DI  2     :
   2  CCD     1     :
   3  GIF SUB 1     :
   4  LD  DI  1     :
   5  GIF     8     :
   6  LD   X  2     :
   7  ST   A  1     :
   8  LD   X  1     :
   9  BSC           :
  10  ST   Y  1     :
  11  LD   A12     :
  12  ST   Y  2     :
  13  END           :

  SLPC    SUB    PROGRAM
================================
STEP  PROGRAM          COMMENT

   1  SUB     1     :
   2  LD  DI  3     :
   3  GIF     6     :
   4  LD   K  1     :
   5  ST  FL11     :
   6  RTN           :
   7                :
```

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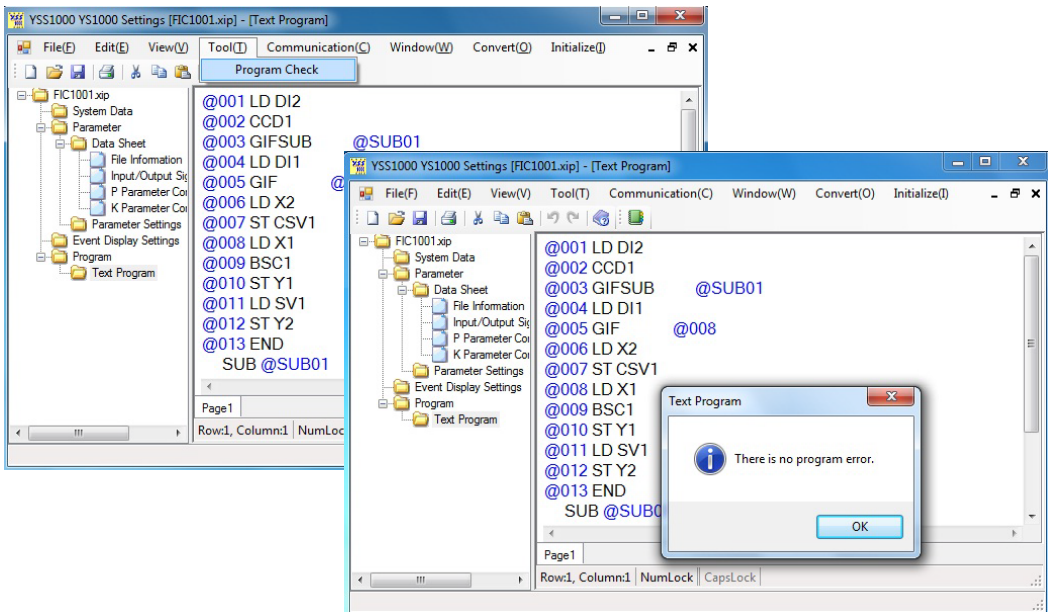
3.8 Checking programs

- Select Tools > Program check to run a program check.

  (1) If an error occurs, check the program.



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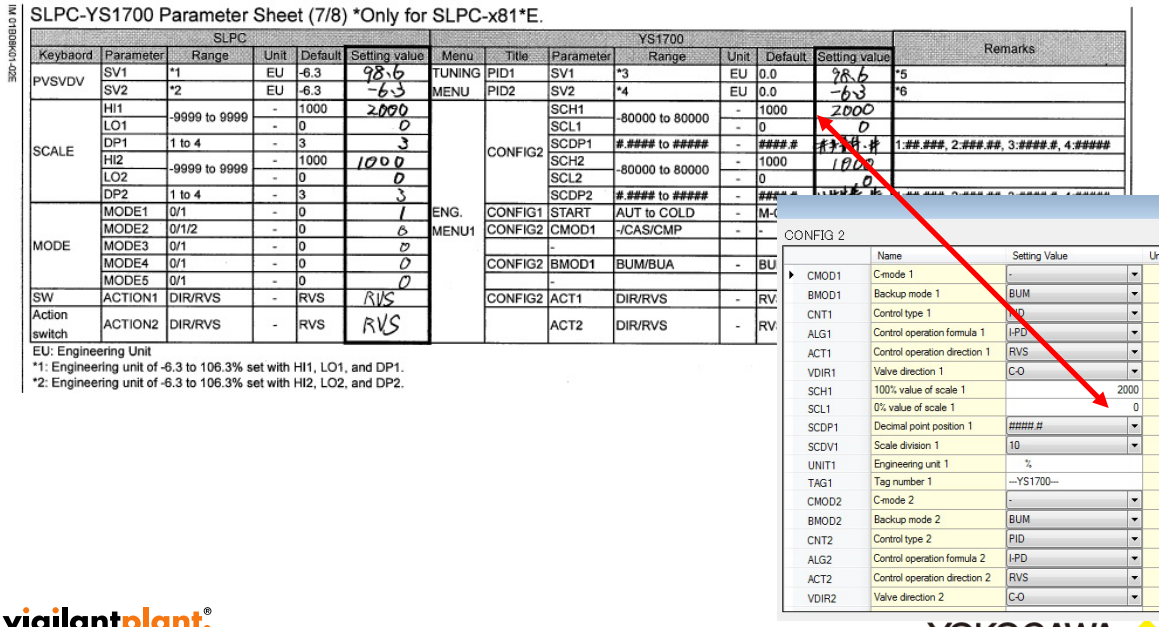
3.9 Checking and entering parameters (part 1)

(1) First, check the LOOP scale.

Note: This is because you cannot check matching of industrial quantities if the scales do not match.

(2) Set TAG numbers and industrial units.



SLPC-YS1700 Parameter Sheet (7/8) *Only for SLPC-x81*E.

SLPC						YS1700						Remarks
Keybaord	Parameter	Range	Unit	Default	Setting value	Menu	Title	Parameter	Range	Unit	Default	Setting value	
PVSVDV	SV1	*1	EU	-6.3	98.6	TUNING	PID1	SV1	*3	EU	0.0	98.6	*5
	SV2	*2	EU	-6.3	-6.3	MENU	PID2	SV2	*4	EU	0.0	-6.3	*6
SCALE	HI1	-9999 to 9999	-	1000	2000			SCH1	-80000 to 80000	-	1000	2000	
	LO1		-	0	0			SCL1		-	0	0	
	DP1	1 to 4	-	3	3		CONFIG2	SCDP1	#.#### to #####	-	####.#	####.#	1:##.###, 2:###.##, 3:####.#, 4:#####
	HI2	-9999 to 9999	-	1000	1000			SCH2	-80000 to 80000	-	1000	1000	
	LO2		-	0	0			SCL2		-	0	0	
	DP2	1 to 4	-	3	3			SCDP2	#.#### to #####	-	###	###	
MODE	MODE1	0/1	-	0	1	ENG.	CONFIG1	START	AUT to COLD	-	M-C		
	MODE2	0/1/2	-	0	0	MENU1	CONFIG2	CMOD1	-/CAS/CMP	-	-		
	MODE3	0/1	-	0	0			-					
	MODE4	0/1	-	0	0		CONFIG2	BMOD1	BUM/BUA	-	BU		
	MODE5	0/1	-	0	0			-					
SW	ACTION1	DIR/RVS	-	RVS	RVS		CONFIG2	ACT1	DIR/RVS	-	RV		
Action switch	ACTION2	DIR/RVS	-	RVS	RVS			ACT2	DIR/RVS	-	RV		

EU: Engineering Unit
*1: Engineering unit of -6.3 to 106.3% set with HI1, LO1, and DP1.
*2: Engineering unit of -6.3 to 106.3% set with HI2, LO2, and DP2.

CONFIG 2

	Name	Setting Value
CMOD1	C-mode 1	-
BMOD1	Backup mode 1	BUM
CNT1	Control type 1	PID
ALG1	Control operation formula 1	I-PD
ACT1	Control operation direction 1	RVS
VDIR1	Valve direction 1	C-O
SCH1	100% value of scale 1	2000
SCL1	0% value of scale 1	0
SCDP1	Decimal point position 1	####.#
SCDV1	Scale division 1	10
UNIT1	Engineering unit 1	%
TAG1	Tag number 1	---YS1700---
CMOD2	C-mode 2	-
BMOD2	Backup mode 2	BUM
CNT2	Control type 2	PID
ALG2	Control operation formula 2	I-PD
ACT2	Control operation direction 2	RVS
VDIR2	Valve direction 2	C-O

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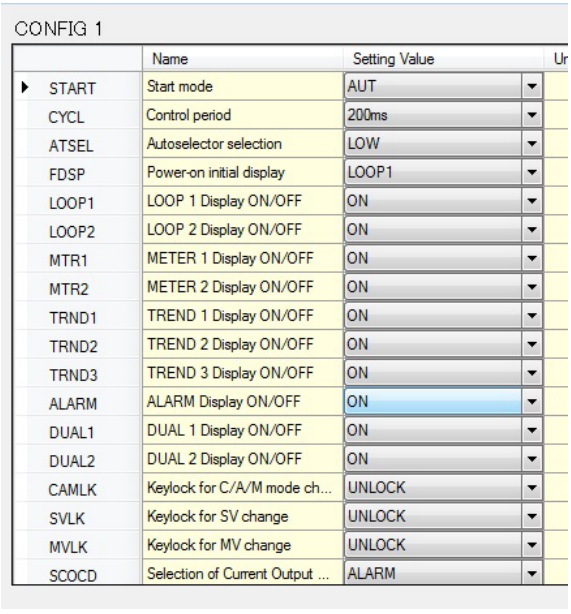
3.9 Checking and entering parameters (part 2)

Set appropriate default parameters.

(1) Set screen parameters as appropriate.



CONFIG 1

	Name	Setting Value
START	Start mode	AUT
CYCL	Control period	200ms
ATSEL	Autoselector selection	LOW
FDSP	Power-on initial display	LOOP1
LOOP1	LOOP 1 Display ON/OFF	ON
LOOP2	LOOP 2 Display ON/OFF	ON
MTR1	METER 1 Display ON/OFF	ON
MTR2	METER 2 Display ON/OFF	ON
TRND1	TREND 1 Display ON/OFF	ON
TRND2	TREND 2 Display ON/OFF	ON
TRND3	TREND 3 Display ON/OFF	ON
ALARM	ALARM Display ON/OFF	ON
DUAL1	DUAL 1 Display ON/OFF	ON
DUAL2	DUAL 2 Display ON/OFF	ON
CAMLK	Keylock for C/A/M mode ch...	UNLOCK
SVLK	Keylock for SV change	UNLOCK
MVLK	Keylock for MV change	UNLOCK
SCOCD	Selection of Current Output ...	ALARM

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3.9 Checking and entering parameters (part 3)

(1) Check other parameters and apply them as needed.

Note: If you find differences between the YSS1000 parameters and the parameter sheet, apply all values from the sheet on the YSS1000.

SLPC-YS1700 Parameter Sheet (5/8)

SLPC						Menu	YS1700						Remarks
Keyboard	Parameter	Range	Unit	Default	Setting value		Title	Parameter	Range	Unit	Default	Setting value	
PN	PX1	0.000 to 1.000	-	0.000	0.000		PID1	SFA1	0.000 to 1.000	-	0.000	0.000	*9, *10
	PY1		-	0.000	0.000			SFB1		-	0.000	0.000	
	PZ1	0.000 to 1.000	-	0.000	0.000			-					*11
	PX2	0.000 to 1.000	-	0.000	0.000		PID2	SFA2	0.000 to 1.000	-	0.000	0.000	*9, *10
	PY2		-	0.000	0.000			SFB2		-	0.000	0.000	
								-					*11
							PID1	PH1	*5	EU	106.3	179.9	*12, *14
								PL1		EU	-6.3	20.1	*12, *15
							PID2	PH2	*6	EU	106.3	106.3	*13, *14
								PL2		EU	-6.3	-6.3	*13, *15
							PID1	DL1	*7	EU	0.0	200.0	*12, *16
								VL1		EU	0.0	200.0	
								VT1	1 to 9999	s	1	1	
							PID2	DL2	*8	EU	0.0	100.0	*13, *16
								VL2		EU	0.0	100.0	
								VT2	1 to 9999	s	1	1	

PID 1

	Name	Setting Value	Uni
SV1	Setpoint value 1	0.0	
PB1	Proportional band 1	100.0	%
TI1	Integral time 1	20	S
TD1	Derivative time 1	2	S
SFA1	Adjustable setpoint filter alpha1	0.000	
SFB1	Adjustable setpoint filter beta1	0.000	
GW1	Non-linear control gap width 1	0.0	%
GG1	Non-linear control gain 1	1.000	
PH1	High limit alarm setpoint for P...	179.9	
PL1	Low limit alarm setpoint for PV1	20.1	
HH1	High-high limit alarm setpoint ...	212.6	
LL1	Low-low limit alarm setpoint f...	-12.6	
DL1	Alarm setpoint for deviation v...	200.0	
VL1	Velocity alarm setpoint for PV1	200.0	
VT1	Velocity alarm time setpoint f...	1	S
HYS1	Alarm hysteresis 1	4.0	
MH1	High limit setpoint of MV1	99.0	%
ML1	Low limit setpoint of MV1	0.0	%
MR1	Manual reset 1	-6.3	%
RB1	Reset bias 1	0.0	%

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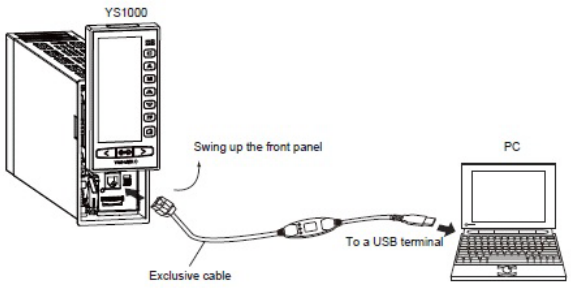
3.10 Download on the YS1000

Connect the YS1000.



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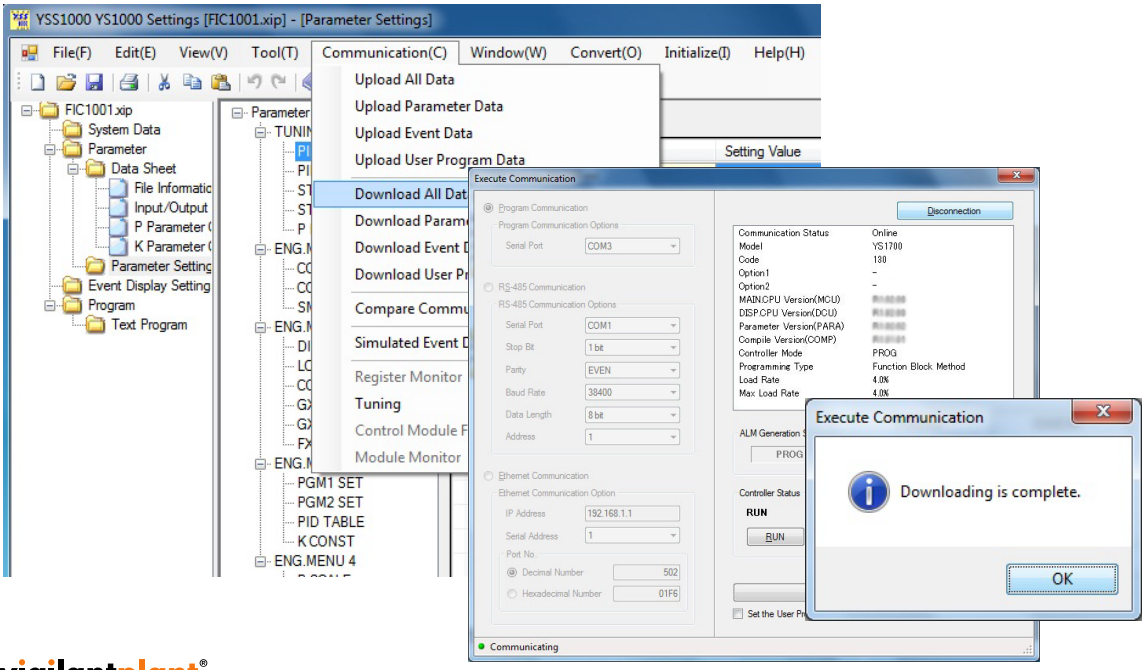
3.10.1 Execute the download

(1) Menu > Communication > Download all
(2) Click STOP and Execute Download all



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3.11 Checking operation (debugging programs)

- Be sure to review the data that was downloaded from the SLPC to the YS1700 and converted, and check operation.

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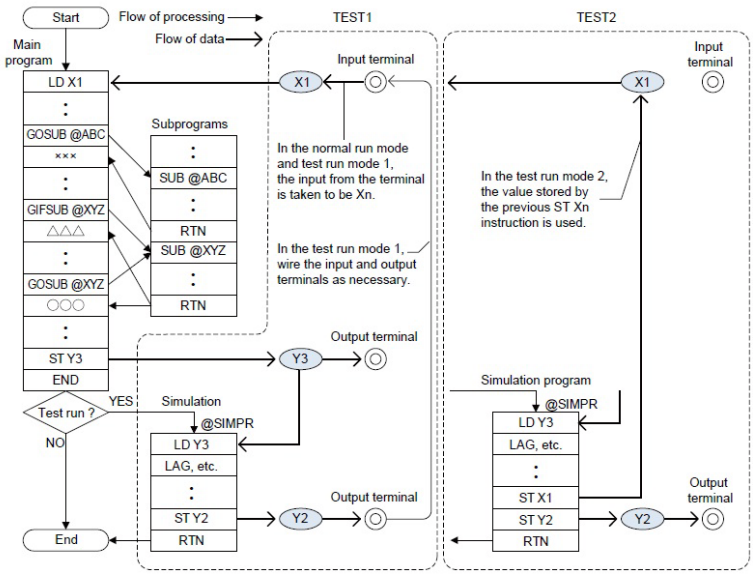
3.11.1 YS1700 operation modes

(1) RUN mode: Run user programs.
(2) TEST1 mode: Run user programs and simulation programs.
(3) TEST2 mode: Run user programs and simulation programs.
You can also set input signals (you can debug without wiring).



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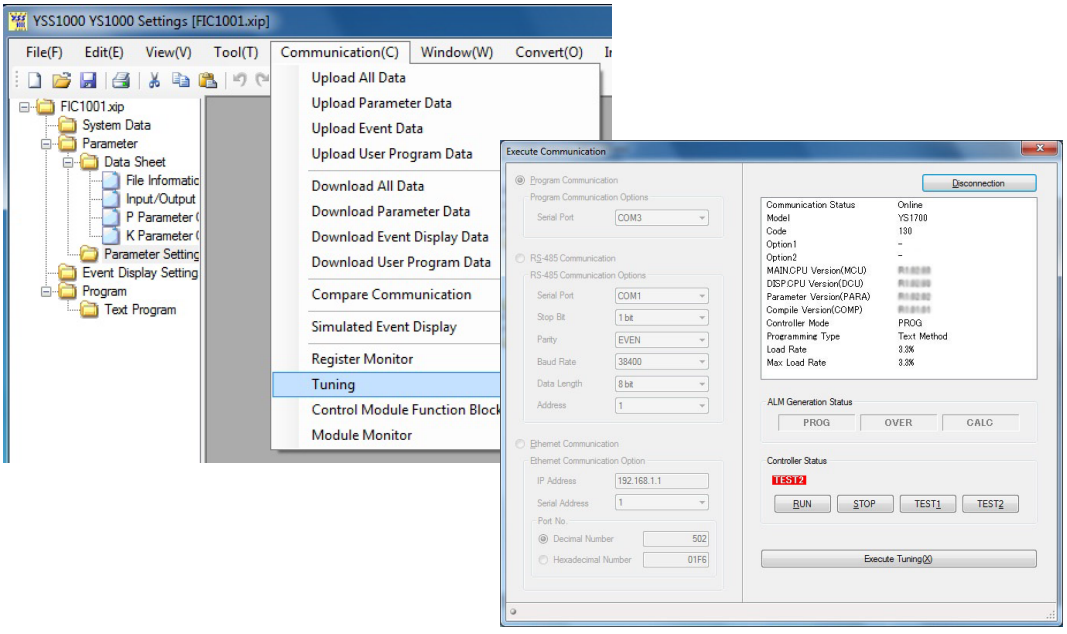
3.11.2 Debug with tuning

(1) Menu > Communication > Tuning
(2) Click TEST2, execute tuning



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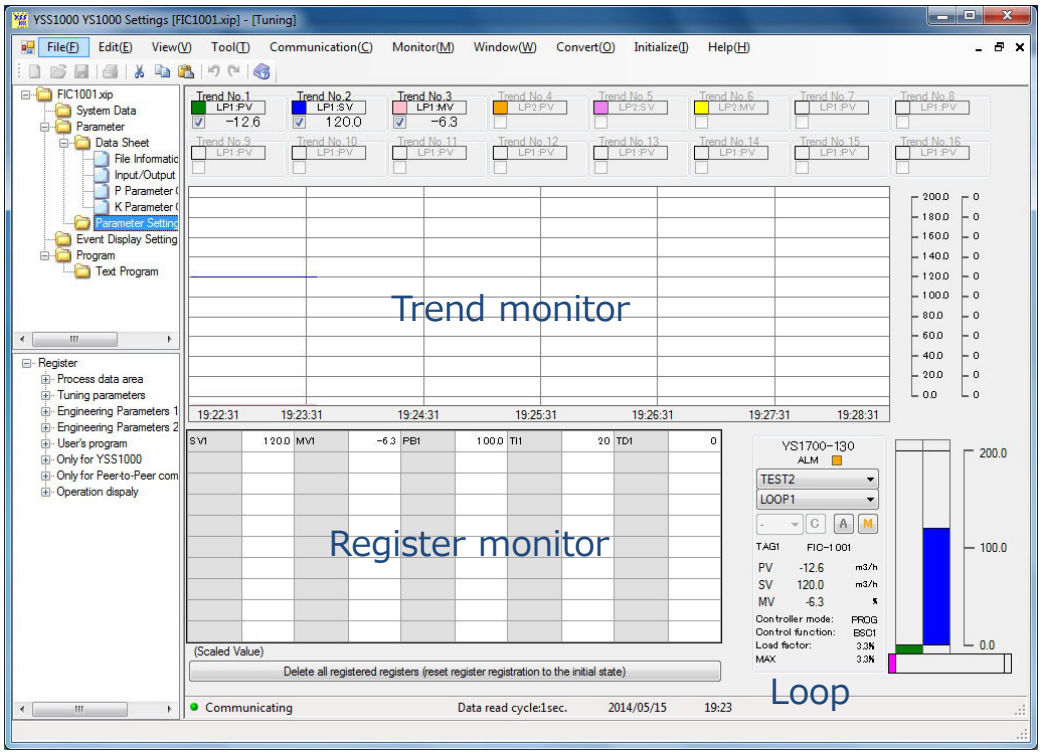
3.11.3 Description of the tuning window



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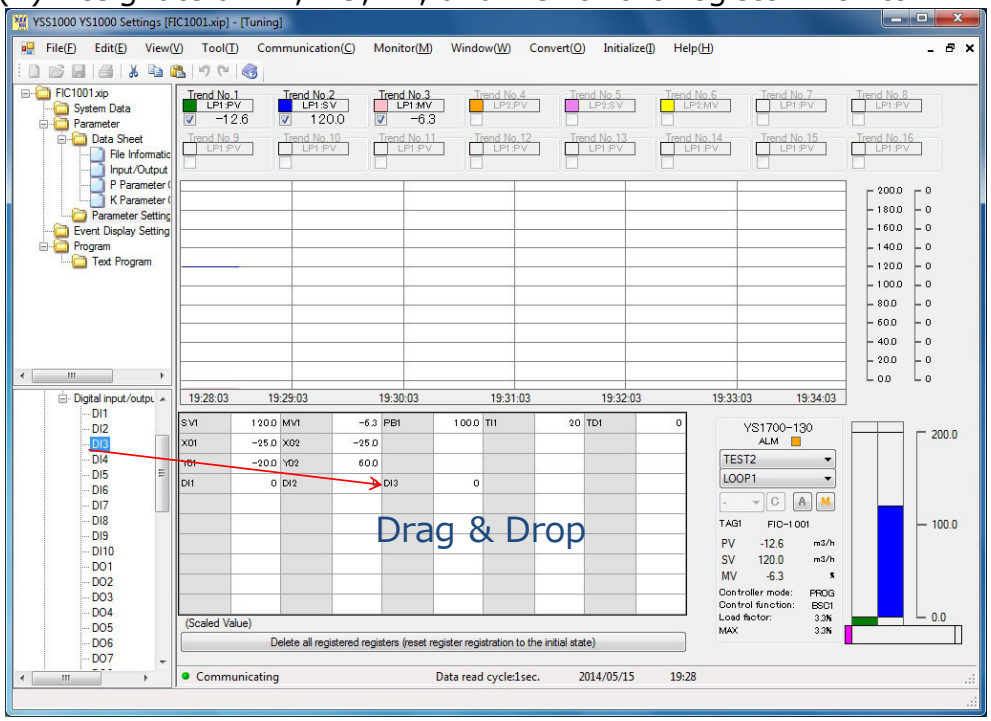
3.11.4 Debug with tuning

(1) Designate all AI, AO, DI, and DO for the register monitor.


YSS1000 YS1000 Settings [FIC1001.xip] - [Tuning]
File(F) Edit(E) View(V) Tool(T) Communication(C) Monitor(M) Window(W) Convert(O) Initialize(I) Help(H)
Drag & Drop
Delete all registered registers (reset register registration to the initial state)
Communicating
Data read cycle:1sec.
2014/05/15
19:28

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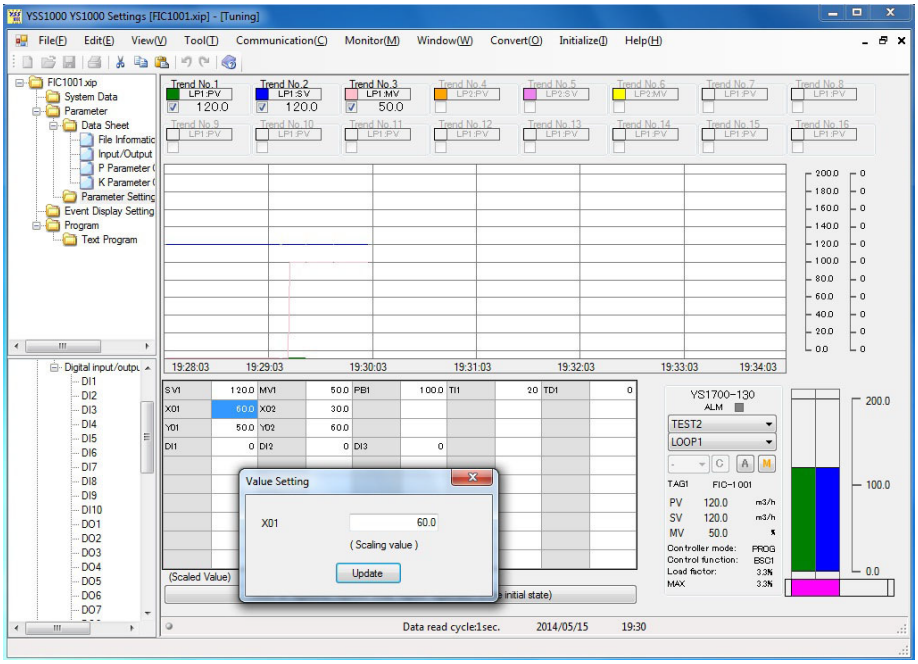
3.11.4 Debug with tuning

(1) Set control registers AI and DI as needed.
(2) Confirm proper operation.



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3.12 Start in RUN mode after debugging

Switch from TEST2 mode to RUN mode.

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4 Precautions

- Be sure to review the data that was downloaded from the SLPC to the YS1700 and converted, and check operation.
  - Review is required if using the following commands.
    - CSC, SSC
    - ST A15(PVM1), ST A16(SVM1), ST FL32
      - » Reason: The display procedure on the SLPC and YS1700 differs.
- User ROM conversion parameters and operational parameters
    - User ROM installed in the SLPC contains user programs and initial parameters. The tuning and other data actually used on the SLPC is not located in the user ROM. When converting data, read the operational parameters and ACTION switch settings from the SLPC side panel, and record them on the parameter sheet. Set the operational parameters that you recorded on the YSS1000. If entering settings on the YSS1000, first enter the scale parameters. Use the parameter sheet found in section 11.4, "SLPC-YS1700 Data Conversion Parameter Sheet."

5 Reference documentation

- Software (user programs)
  - YSS1000 Setting Software/YS1700 Programmable Function user's manual
    - » (**IM 01B08K01-02)**
  - 2.13.3 Converting the User ROM Data of YS80 (SLPC)
    - » Describes the procedure for converting SLPC user ROM data.
  - 11.4 Parameter Sheet for SLPC-YS1700 Data Conversion
    - » Use the parameter sheet when converting SLPC data for the YS1700.

- Reference materials
  - ROM reader
    - » Use universal program MODEL1882 and MODEL1883
    - » Minato Electronics Corp.
    - » URL : http://www.minato.co.jp/en/index.html

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